REMARKS

Status of the claims:

With the above amendments, claims 1, 3, 6, 26-29, 36, and 37 have been amended with claims 2, 8-25 and 34 having been canceled and claims 26-29 and 36-37 having been withdrawn from a prior restriction requirement. Claims 39-50 have been added. Thus, claims 1, 3-7, 26-33, and 35-50 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. Support for the amendments to claims 1 and 3 can be found at page 6, line 20. All other amendments are to correct dependencies. New claims 39-50 have general support at page 2, lines 29-30. Claim 39 claims the subject matter related to the protein claimed in claim 1, claim 40 corresponds to claim 6, claims 41-43 correspond to claims 3-5, respectively, claim 44 corresponds to claim 7, claims 45-47 correspond to claims 31-33, respectively, and claim 48 corresponds to claim 35. Claims 49 and 50 limit claim 35. Reconsideration is respectfully requested in light of the following remarks.

Rejections under 35 USC §112, first paragraph

Claims 1, 3-6, 30-33, 35, and 38 are rejected under 35 USC §112, first paragraph as not being enabled.

Applicants have amended claim 1 to recite a specific sequence (i.e., SEQ ID No: 4). Applicants believe that with this amendment that the full scope of the claimed invention can be made and used without undue experimentation. Applicants have presented several examples of peptides that have anti-angiogenic activity and that are receptors for the N-terminal fragment of plasminogen comprising kringle domains 1-4 and/or 5 wherein these proteins do not cleave plasminogen kringle domains. Accordingly, Applicants submit that the rejection has been obviated and the claim is enabled for its full scope. For this reason alone, withdrawal of the rejection is warranted and respectfully requested.

Moreover, the Examiner states in the Office Action of August 26, 2003:

> *The rejection of claims 1, 3-6, 30-33, 35 and 38 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for Big-3 (SEQ ID NO:4), a recombinant fragment of ABP-1 (SEQ ID NO:2), an isolated human protein having anti-angiogenic activity and a receptor for a N-terminal fragment of plasminogen comprising human angiostatin (kringle domains 1-4) and plasminogen (kringles 1-5), does not reasonably provide enablement for any isolated human protein or fragment of ABP-1 which is capable of functioning as an anti-angiogenic molecule and a receptor for a N-terminal fragment of plasminogen comprising kringle 5 is maintained.*

Applicants assert that the Examiner has misconstrued the claims in this statement. Applicants do not believe that they ever claim "any isolated human protein or fragment of ABP-1 which

is capable of functioning as an anti-angiogenic molecule and a receptor for a N-terminal fragment of plasminogen comprising kringle 5" as asserted by the Examiner. Applicants, in particular, point to claim 35, which claims:

> *35. An isolated human protein having anti-angiogenic activity and that is a receptor for an N-terminal fragment of plasminogen comprising kringle domains 1-4 and/or 5 and wherein said protein comprises SEQ ID No: 4 and has sequence homology equal to or greater than 80% to SEQ ID Nos: 2 or 3.*

Applicants respectfully point out that there are additional structural elements in this claim that the Examiner fails to acknowledge. In particular, the claimed protein not only has the functional features recited in the claims, it also "comprises SEQ ID No: 4 and has sequence homology equal to or greater than 80% to SEQ ID Nos: 2 or 3". Thus, Applicants are not claiming "**any** isolated human protein or fragment of ABP-1" with the recited functional properties and no structural elements. Applicants are claiming a protein which has both functional and structural properties. The combination of these features makes the claims fully enabled.

Moreover, Applicants assert that the Examiner has failed to support the broad supposition that the claims are not fully enabled. Applicants submit that the Examiner has failed to meet the burden of presenting a *prima facie* case as to why the claims

would not be enabled. Section 2164.04 of the MPEP citing *In re Marzocchi*, 169 USPQ 367, 370 (CCPA 1971), states:

> *It is incumbent upon the Patent Office, whenever a rejection on this basis (enablement) is made, to explain why it doubts the truth of accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.*

The Examiner has failed to meet this initial burden. The Examiner has not provided any evidence or reasoning why the protein enumerated, for example, in claim 35 would not bind kringle 5, while having the additional functional and structural properties as claimed. Absent some evidence from the Examiner that this protein cannot be made and used without undue experimentation, one must assume that the full scope of the claimed invention is enabled by the specification. Applicants have provided examples that work and the Examiner has provided no evidence as to why the protein, which has the functional and structural properties enumerated in the claims would not bind kringle 5. The burden of lack of enablement has not shifted from the U.S. Patent and Trademark Office to the Applicants. In other words, the rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

Applicants would also like to address a comment made by the Examiner on the Advisory Action of February 18, 2003. In the Advisory Action of February 18, 2003, the Examiner states:

> *Applicants have amended claim 1 to contain the recitation, mammal, which is broader than "human". The change in term suggests that all mammals have the sequence of SEQ ID NO:4. The Examiner has reviewed the specification and has not found support for this change in scope. An additional search would need to be executed to verify this claim amendment. . .*

Applicants respectfully point out that there is support for mammalian protein at page 2, lines 27-28. Further, Applicants take exception to the Examiner's assertion that the "change in term suggests that all mammals have the sequence of SEQ ID NO:4". Claim 1 recites:

> *1. An isolated mammalian protein having anti-angiogenic activity and that is a receptor for an N-terminal fragment of plasminogen comprising kringle domains 1-4 and/or 5 wherein said protein does not cleave plasminogen kringle domains and wherein said protein comprises an amino acid sequence having 80% sequence homology or greater to SEQ ID NO: 4.*

By reading the above claim, one of skill in the art would find no suggestion that all mammals have the sequence of SEQ ID NO: 4. First, the claim encompasses proteins that have up to 80% sequence homology to SEQ ID NO: 4. Thus, Applicants in no way are suggesting that all mammals have the same sequence as SEQ ID NO: 4. Applicants are merely claiming mammalian proteins where the sequences of proteins have the same function with similar sequences. It is well-known that phylogenetic conservation (*i.e.*, similar sequence homology) is likely to occur amongst different species that are close evolutionarily (*e.g.*, mammals) with only minor variations. The closer the species is

phylogenetically, the more likely the sequence conservation (*i.e.*, the less sequence variation). Thus, Applicants are merely claiming proteins with these minor variations.

Applicants are not claiming those mammalian species that have proteins with the claimed features that have considerably less than 80% sequence homology to SEQ ID NO: 4. Proteins that have large sequence variations are outside the scope of the claim.

In light of the above comments, Applicants submit that there is full support in the specification for claims directed to mammalian proteins.

With the above remarks and amendments, it is believed that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a three (3) month extension of time for filing a response in connection with the present application. The required fee of $950.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Gerald M. Murphy, Jr., #28,977

GMM/TBS/mua

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000